

**DEFENSE ADVANCED RESEARCH PROJECTS AGENCY
TACTICAL TECHNOLOGY OFFICE (TTO)
PLANNED PROCUREMENTS
January 2000**

PROGRAM DESCRIPTION	FUNDING	SCHEDULE	PROGRAM MGR
Applied Micro Adaptive Flow Control (MAFC): The Applied MAFC program seeks to achieve radical aerodynamic and hydrodynamic benefits in military systems by adaptively controlling performance-limiting physical phenomena such as flow separation, vortex dynamics, and turbulence. DARPA is interested in the development and demonstration of closed-loop feedback control of flow instabilities through localized actuation, sensing, and control. The intent of this solicitation is to develop and validate enabling MAFC technologies, and to integrate MAFC technologies into full-scale, high pay-off systems-level demonstrations.	\$20M	BAA 00-13 Proposals due: 2/9/00 Total program: 3 years	Dr. Richard Wlezien TTO
Advanced Tactical Technology: The Advanced Tactical Technology program seeks to research and design system- and sub-system-level technology for integration into the tactical environment to supplement, replace, support, or enhance existing systems. DARPA TTO has four primary focus areas: aeronautic systems, space systems, land systems and embedded processors and control systems. The intent of this solicitation is to sponsor the development and/or the demonstration of system or sub-system technologies that provide revolutionary improvements to the efficiency and effectiveness of the military relative to current modes of operation.	TBD	BAA 2QFY00 Total program: TBD	Dr. Richard Wlezien TTO
Advanced Intelligence, Surveillance and Reconnaissance (ISR) Management (AIM): The AIM program will develop capabilities that will allow the ISR confederation to operate in a time compressed and cooperative collection capacity necessary for synergistic collections, time critical targeting, and dynamic battlefield awareness. The program is initially focused on supporting the Joint Task Force and its component command structure. AIM will concentrate on three major areas to achieve its goal: Information Needs Development, Strategy Development, and Multi-Asset Synchronization.	\$25M	BAA 97-05- PKPX Open through 9/30/01 Total program: 4 years	CDR Carol Thompson TTO

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Radio Frequency (RF): The Digital Radio Frequency Tag (DRaFT) program will enable data exfiltration between ground sensors and airborne radar systems -- both synthetic aperture radar and moving target indication need to be considered. The DRaFT system will consist of small, low-cost devices that can be emplaced in theater and remain hidden until queued by a radar system. The DRaFT system should be digital in logic, enabling programmable shifts in phase and amplitude of the return signal. There should be minimal/no impact on the emitting radar system either in functionality or concept of operations.	\$18M	BAA 99-03-IFKPA Open through 9/23/00 Total program: 5 years	Dr. David Fields TTO
Coherent Communications, Imaging and Targeting (CCIT): The CCIT program will develop and demonstrate innovative concepts and conduct technology demonstrations for aberration-free, multi-gigabit per second, ground-to-space communications, and distortion-free or near-diffraction-limited imaging at very long ranges in excess of 1000 kilometers. The CCIT program will develop silicon micro-machined spatial light modulators (SLMs), and exploit the advances in high-speed addressing and integration of electronics on SLMs and signal processing. The program will establish the feasibility of secure multi-gigabit communications and aberration-free three-dimensional imaging at tens of kilometers before full-scale ground-to-space demonstrations.	TBD	RFI 00-06 Open through 02/10/00	Dr. L. N. Durvasula TTO
Small Scale Propulsion Systems (SSPS): The SSPS program seeks to develop a small-scale class of propulsion systems with thrust levels ranging from 10g to 10kg. The program will enable future development of next-generation small weapons and military platforms including micro air vehicles, unmanned combat air vehicles, missiles and space-launch vehicles. Radical new capabilities to be explored range from shirt-button-sized micro gas-turbine and micro rocket engines to 5cm-scale gas-turbine and pulse detonation engines. Examples of new mission capabilities may include delivery of very small (200g) satellites to low-earth orbit; light-weight, long-endurance miniature reconnaissance vehicles; and extended range small scale precision munitions. Some initial funding has been awarded, but the BAA remains open to white papers.	TBD	BAA 99-22 Open through 5/14/00 Total program: 4 years	Dr. David Fields TTO

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ASTRO/Orbital Express (OE): The OE program will demonstrate a class of satellites with the ability to transfer fluid (type of fluid that the craft would need to extend the life of a satellite), accomplish preplanned electronics upgrades, autonomously rendezvous and dock. The program's goal is to develop an architecture and/or demonstrate system or subsystem technologies that provide revolutionary improvements in efficiency and effectiveness in areas such as information dissemination, logistics support, extended life, satellite maneuverability, and electronics upgrade on orbit. The solicitation would be under a Section 845 Other Transaction for up to five teams with a phased down-select to two teams to each build one of the two demonstration satellites.	\$100M	Program Announcement 2QFY00 Total program: 4 years	Mr. Sam B. Wilson TTO
Future Combat Systems (FCS): Future Combat Systems is a lightweight, network-centric, multi-mission combat system of systems that will achieve overwhelming lethality, strategic deployability, self-sustainment, and high survivability by distributing and/or sharing functions that normally are combined in heavy, mission-specific combat platforms and by maximizing the use of unmanned vehicles. Central to the development of the FCS is the concept of combat teams comprised of manned and unmanned mobile systems that can effectively operate as small units or in combination across large distances, or in urban areas, to locate, identify, engage and destroy targets including those traditionally engaged by heavy tanks. FCS will build prototypes after the initial concept design has been chosen. FCS is a joint DARPA/Army program with DARPA designated as lead until the program transitions to the Army in FY03. The program manager reserves the right to fund focused research to explore high-payoff technology areas. Multiple awards up to \$7.55M each are anticipated.	TBD	Research Announcement 2QFY00 Total program: 5 years	LTC Marion Van Fosson TTO